

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated February 13, 2003 (U.S. Patent Office Paper No. 4). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Claims 1 to 13 are currently pending in this application. As outlined above, claims 3 and 9 are being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claims 1 through 13 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Kanou *et al.* (U.S. Patent No. 6,407,784 B1, the "Kanou reference").

The Examiner stated in the Office Action, on page 2, lines 18 through 27, that "As shown in Fig. 3, the Kanou reference discloses a liquid crystal display device 70, comprising: ... protruding portions 73 are scattered on surfaces thereof and respective protruding portions are provided in two or more kinds which are different in shape from each other when the pixel electrodes are viewed in a plan view..." Applicants respectfully disagree.

The Kanou reference in fact discloses regarding Fig. 3, in col. 8 lines 15-25: "The lower substrate 72A is comprised of an insulating substrate 35A, an active matrix drive device 5 formed on the insulating substrate 35A, a plurality of pillar-shaped projections 73 standing on the insulating substrate 35A in line with the active matrix drive device 5, a first insulating film 28 formed on top of the active matrix drive device 5, a second insulating film 30 covering the active matrix drive device 5 and the pillar-shaped projections 73 therewith, and a light-reflective electrode plate 74 formed entirely over the second insulating film 30 and composed of metal having a high reflectance ratio."

Also, the Kanou reference discloses in col. 9 lines 18-23, that: "The projections 73 may be formed of at least one of the metal layer 27, the gate insulating layer 18, the semiconductor

layer 19, and the doped layer 20, all of which have been formed when the thin film transistor 5 was fabricated on the insulating substrate 35A, and the first insulating film 28."

Further, in col. 8, lines 59 the Kanou reference recites: "Fig. 3 is a cross-sectional view illustrating a reflection type liquid crystal display in accordance with the first embodiment of the invention. The reflection type liquid crystal display includes a thin film transistor having a forward stagger structure."

Applicants have carefully reviewed the Kanou reference, and cannot find regarding Fig. 3 any reference to the particular feature the Examiner uses as support for the rejection. The Kanou reference does not disclose, either in the section that describes Fig. 3 nor in other portions of the reference, what is the shape of the protruding portions 73 in plan view. As shown above, the Kanou reference presents the protruding portions 73 in section view.

In contrast, on page 2, paragraph [0006] of the pending application, the "island-like material layers" are described as, "However, in the liquid crystal display devices having such constitutions, all of the island-like material layers which are formed at the lower layer sides of the pixel electrodes have the same shape (including the similar shape) when viewed in a plan view so that all of the side surfaces of the protrusions which are exposed from the surfaces of the pixel electrodes due to respective material layers have the same taper angle."

The shape of all protruding portions 73 will be the same (including the similar shape) in a plan view although they are different in size. In one particular embodiment, all protruding portions 73 will have the same round shape and different sizes. A small round shape and a large round shape will have the same appearance in section view as disclosed by the Kanou reference. The same case, of a small round shape and a large round shape, viewed in light of the disclosure made in our pending application, is the same shape. The term "the same shape" according to the above citation from the pending application "is including the similar shape" that, regarding the particular embodiment mentioned above, refers to the same shape but of different size.

In light of the above, the feature "different in shape" recited by claim 1 regarding the protruding elements is not identically disclosed by the Kanou reference. Therefore, the Kanou reference does not disclose each and every feature of claim 1. The Kanou reference does not anticipate claim 1.

On page 3, lines 1-2, the Examiner states that: "...wherein among the island-like multi-layered material layers, there exist layers which are different in the number of layers (col. 10, lines 28-31)."

The paragraph referenced by the Examiner reads as follows: "However, it should be noted that each of the projections 73 may be comprised of two or more layers among the layers constituting the thin film transistor 7, and the first insulating film 28."

Col. 21, lines 50-67 of the Kanou reference provides further details about the actual embodiment: "In the above-mentioned example 1, each of the projections 73 is comprised of the chromium film, the silicon dioxide film, the silicon nitride film, the amorphous silicon film, the n-type amorphous silicon film, the chromium film, and the first insulating film 28. However, the projections 73 may be comprised of any one the following combinations:

- (a) a single chromium layer;
- (b) a chromium layer and the first insulating film 28 composed of organic material;
- (c) a chromium film, an n-type amorphous silicon film, an amorphous silicon film, a silicon nitride film, a silicon dioxide film, a silicon nitride film, and a chromium film; and
- (d) a chromium film, an n-type amorphous silicon film, an amorphous silicon film, a silicon nitride film, a silicon dioxide film, a silicon nitride film, a chromium film, and the first insulating film 28 composed of organic material."

The above example illustrates that all projection elements 73 are comprised of the same number of layers. In the above illustrated case, 1 or respectively 7 layers.

In contrast, the allegedly anticipated claim 2 discloses a mixed configuration, of island like multi-layered material layers that have "different number of layers" in the same embodiment. Based on the above, the Kanou reference does not disclose each and every feature of claim 2, and therefore does not anticipate claim 2.

Claims 2-13 depend from and add features to an allowable independent claim. Therefore, they are also allowable for the same reasons as claim 1 and for reasons contained therein.

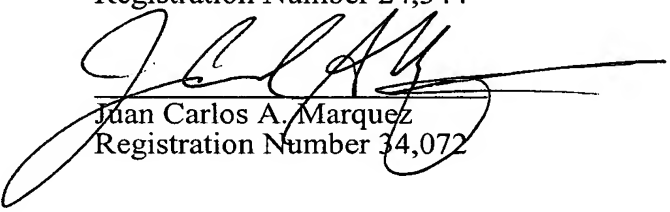
CONCLUSION

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

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MARKED-UP COPY OF THE CLAIM AMENDMENTS

3. A liquid crystal display device according to claim 1, wherein among the island-like multi-layered material layers, there exist the island-like multi-layered material layers whose [respective] shape of one [layers are] layer is different from [respective] corresponding one [layers] layer of other island-like multi-layered material layers when the island-like multi-layered material layers are viewed in a plan view.
9. A liquid crystal display device according to claim 1, wherein the liquid crystal display device further includes
- a plurality of gate signal lines which are formed on the liquid-crystal-side surface of one substrate, and
 - a plurality of drain signal lines which are formed on the liquid-crystal-side surface of one substrate such that the drain signal lines intersect the gate signal lines,
 - the pixel regions are regions which are surrounded by the gate signal lines which are arranged close to each other and the drain signal lines which are arranged close to each other,
 - the pixel regions are provided with thin film transistors which are driven with the supply of scanning signals from the gate signal lines at one side,
 - the pixel electrodes receive video signals from the drain signal lines at one side through thin film transistors, and
 - the island-like multi-layered material layer is formed of a laminated body made of at least two material layers selected from a material layer which is made of material equal to material of the gate signal lines, a material layer which is made of material equal to material of gate insulation films of thin film transistors, a material layer which is made of material equal to material of the drain signal lines, a material layer which is made of material equal to material of a protective [layer] film which covers the thin film transistors.